Message

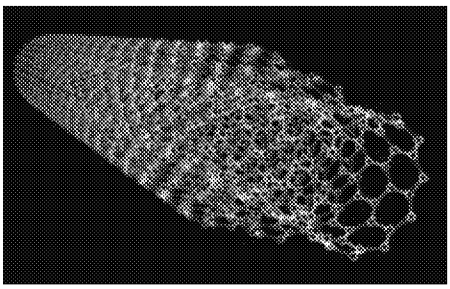
From: Faeth, Lisa [Faeth.Lisa@epa.gov]
Sent: 5/6/2019 2:13:34 PM
To: Anderson, Steve [Anderson.Steve@epa.gov]; Askinazi, Valerie [Askinazi.Valerie@epa.gov]; Baptist, Erik [Baptist.Erik@epa.gov]; Barkas, Jessica [barkas.jessica@epa.gov]; Beck, Nancy [Beck.Nancy@epa.gov]; Bertrand, Charlotte [Bertrand.Charlotte@epa.gov]; Blair, Susanna [Blair.Susanna@epa.gov]; Buster, Pamela [Buster.Pamela@epa.gov]; Canavan, Sheila [Canavan.Sheila@epa.gov]; Caraballo, Mario [Caraballo.Mario@epa.gov]; Carroll, Megan [Carroll.Megan@epa.gov]; Cherepy, Andrea [Cherepy.Andrea@epa.gov]; Christian, Myrta [Christian.Myrta@epa.gov]; Corado, Ana [Corado.Ana@epa.gov]; Davies, Clive [Davies.Clive@epa.gov]; Dekleva, Lynn [dekleva.lynn@epa.gov]; Devito, Steve [Devito.Steve@epa.gov]; Doa, Maria [Doa.Maria@epa.gov]; Drewes, Scott [Drewes.Scott@epa.gov]; Dunn, Alexandra [dunn.alexandra@epa.gov]; Dunton, Cheryl [Dunton.Cheryl@epa.gov]; Edelstein, Rebecca [Edelstein.Rebecca@epa.gov]; Edmonds, Marc [Edmonds.Marc@epa.gov]; Elwood, Holly [Elwood.Holly@epa.gov]; Fan, Shirley [Fan.Shirley@epa.gov]; Farquharson, Chenise [Farquharson.Chenise@epa.gov]; Fehrenbacher, Cathy [Fehrenbacher.Cathy@epa.gov]; Feustel, Ingrid [feustel.ingrid@epa.gov]; Frank, Donald [Frank.Donald@epa.gov]; Gibson, Hugh [Gibson.Hugh@epa.gov]; Gimlin, Peter [Gimlin.Peter@epa.gov]; Gorder, Chris [Gorder.Chris@epa.gov]; Gordon, Brittney [Gordon.Brittney@epa.gov]; Grant, Brian [Grant.Brian@epa.gov]; Gray, Shawna [Gray.Shawna@epa.gov]; Groeneveld, Thomas [Groeneveld.Thomas@epa.gov]; Guthrie, Christina [Guthrie.Christina@epa.gov]; Hanley, Mary [Hanley.Mary@epa.gov]; Helfgott, Daniel [Helfgott.Daniel@epa.gov]; Henry, Tala [Henry.Tala@epa.gov]; Kapust, Edna [Kapust.Edna@epa.gov]; Kemme, Sara [kemme.sara@epa.gov]; Koch, Erin [Koch.Erin@epa.gov]; Krasnic, Toni [krasnic.toni@epa.gov]; Lavoie, Emma [Lavoie.Emma@epa.gov]; Lee, Mari [Lee.Mari@epa.gov]; Lee, Virginia [Lee.Virginia@epa.gov]; Leopard, Matthew (OEI) [Leopard.Matthew@epa.gov]; Liva, Aakruti [Liva.Aakruti@epa.gov]; Lobar, Bryan [Lobar.Bryan@epa.gov]; Menasche, Claudia [Menasche.Claudia@epa.gov]; Morris, Jeff [Morris.Jeff@epa.gov]; Moss, Kenneth [Moss.Kenneth@epa.gov]; Mottley, Tanya [Mottley.Tanya@epa.gov]; Moyer, Adam [moyer.adam@epa.gov]; Myers, Irina [Myers.Irina@epa.gov]; Myrick, Pamela [Myrick.Pamela@epa.gov]; Nazef, Laura [Nazef.Laura@epa.gov]; Ortiz, Julia [Ortiz.Julia@epa.gov]; Owen, Elise [Owen.Elise@epa.gov]; Parsons, Doug [Parsons.Douglas@epa.gov]; Passe, Loraine [Passe.Loraine@epa.gov]; Pierce, Alison [Pierce.Alison@epa.gov]; Pratt, Johnk [Pratt.Johnk@epa.gov]; Price, Michelle [Price.Michelle@epa.gov]; Reese, Recie [Reese.Recie@epa.gov]; Reisman, Larry [Reisman.Larry@epa.gov]; Rice, Cody [Rice.Cody@epa.gov]; Richardson, Vickie [Richardson.Vickie@epa.gov]; Ross, Philip [Ross.Philip@epa.gov]; Sadowsky, Don [Sadowsky.Don@epa.gov]; Santacroce, Jeffrey [Santacroce.Jeffrey@epa.gov]; Saxton, Dion [Saxton.Dion@epa.gov]; Scarano, Louis [Scarano.Louis@epa.gov]; Scheifele, Hans [Scheifele.Hans@epa.gov]; Schmit, Ryan [schmit.ryan@epa.gov]; Schweer, Greg [Schweer.Greg@epa.gov]; Scott Selken [spselken@up.com]; Scott, Elizabeth [Scott.Elizabeth@epa.gov]; Selby-Mohamadu, Yvette [Selby-Mohamadu.Yvette@epa.gov]; Seltzer, Mark [Seltzer.Mark@epa.gov]; Sheehan, Eileen [Sheehan.Eileen@epa.gov]; Sherlock, Scott [Sherlock.Scott@epa.gov]; Simons, Andrew [Simons.Andrew@epa.gov]; Sirmons, Chandler [Sirmons.Chandler@epa.gov]; Slotnick, Sue [Slotnick.Sue@epa.gov]; Smith, David G. [Smith.DavidG@epa.gov]; Smith-Seam, Rhoda [smith-seam.rhoda@epa.gov]; Stedeford, Todd [Stedeford.Todd@epa.gov]; Stevens, Katherine [stevens.katherine@epa.gov]; Strauss, Linda [Strauss.Linda@epa.gov]; Symmes, Brian [Symmes.Brian@epa.gov]; Tanner, Barbara [Tanner.Barbara@epa.gov]; Thompson, Tony [Thompson.Tony@epa.gov]; Tierney, Meghan [Tierney.Meghan@epa.gov]; Tillman, Thomas [Tillman.Thomas@epa.gov]; Tomassoni, Guy [Tomassoni.Guy@epa.gov]; Tran, Chi [Tran.Chi@epa.gov]; Turk, David [Turk.David@epa.gov]; Vendinello, Lynn [Vendinello.Lynn@epa.gov]; Wallace, Ryan [Wallace.Ryan@epa.gov]; Wheeler, Cindy [Wheeler.Cindy@epa.gov]; Widawsky, David [Widawsky.David@epa.gov]; Williams, Aresia [Williams.Aresia@epa.gov]; Williams, Bridget [Williams.Bridget@epa.gov]; Williamson, Tracy [Williamson.Tracy@epa.gov]; Wills, Jennifer [Wills.Jennifer@epa.gov]; Wise, Louise [Wise.Louise@epa.gov]; Wolf, Joel [Wolf.Joel@epa.gov]; Wright, Tracy [Wright.Tracy@epa.gov]; Yowell, John [yowell.john@epa.gov]
Subject: News Articles (For EPA Distribution Only)

CHEMICAL WATCH ARTICLES

German project to study nanomaterials over lifetime

Will include hybrid materials and 3D printing

3 May 2019 / Academic studies, Built environment, Germany, Nanomaterials, Personal care



A new project to study the health and environmental risks of novel nanomaterials over their entire life started this week. The joint research project, InnoMat.Life, is being coordinated by the German Federal Institute for Risk Assessment (BfR).

Nanomaterials are used in a wide variety of applications including UV filters in sun lotions, dirt repellent in textiles and flame retardants in furniture.

"Where safety research is concerned, nanomaterials have mainly been viewed individually up to now and not with respect to their intended use," said BfR President Andreas Hensel. "This is not sufficient, as in real life they occur in many different forms and, in products, they are usually combined with other materials."

Nanosafety research has mainly focused on first-generation nanomaterials, with a small number of more advanced materials, including carbon nanotubes and graphene, being studied.

This project will expand the research to include hybrid materials as well as nanoparticles of different shapes and sizes. It will also examine industrial processes that alter the structure of substances, such as 3D printing, which uses a layer-by-layer assembly.

The project will cost over two million euros and is funded by the German Federal Ministry of Education and Research. Ten partners from public authorities, academia and industry are cooperating to establish criteria for an efficient assessment of the human health and environmental risks.

Maria Delaney

Reporter

Further Information:

- Press release

Germany's BfR review reveals how nanotoxicology 'struggles' with complexity

Data gaps in understanding and mechanistic methods

3 May 2019 / Germany, Nanomaterials, Risk assessment, United States

A recent review of nanotoxicology has identified gaps in both understanding and mechanistic methods, with researchers finding that despite nearly 10,000 papers being published on the topic, it is difficult to find examples of common processes that will release large quantities of engineered nanomaterials.

This is because there is "still a lack of big scale 'nano' manufacturing industry that is associated with producing engineered nanomaterials," say scientists from the German Federal Institute for Risk Assessment (BfR) and academics from Germany and the US.

Their overall conclusion was that this research field struggles with its incredible complexity. They made particular reference to the immense effort needed to fully understand the fundamental processes of how these materials interact with biological systems.

The review, published in *Toxicology Mechanisms and Methods*, found that the risks identified in many *in vitro* experiments appear partly unrealistic if extrapolated to link to actual exposure. For example, a positive toxic result in literature does not always equate to an actual risk or hazard.

They also examined *in vivo* experiments and found that very subtle differences in nano properties, such as size or surface state, can result in surprising changes. Understanding these changes, they added, remains a huge challenge.

Reproducibility of data was also identified as an issue for a number of reasons, including batch-to-batch variability as well as lack of modelling instruments, harmonised protocols and theoretical understanding. The authors say addressing this should be a priority.

Because of the growing use of nanoproducts, "nanotoxicology research [is] absolutely essential for society to develop safer nanomaterials for the future", the researchers say.

"The research community has to develop visions to predict the unforeseen problems that do not exist yet in context with nanotoxicity and public health hazards due to the burgeoning use of nanomaterial in consumer's product," they conclude.

Maria Delaney

Reporter

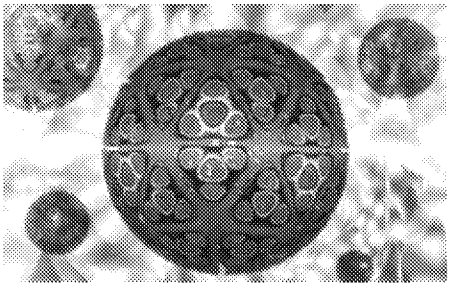
Further Information:

- Journal article (open access)

JRC and industry develop categorisation scheme for nanomaterials

Decisions on which particle-size techniques to use

3 May 2019 / Europe, Nanomaterials, Test methods



Scientists at the EU's Joint Research Centre (JRC) have worked with industry and academia to create a nanomaterials categorisation scheme linked to the capabilities of particle-size measurement techniques.

The increasing presence of nanomaterials in commercial products has triggered the need for their regulation. In the EU, regulations on medical devices, biocidal products, novel foods and cosmetic products specifically address nanomaterials and the same is expected under REACH, once amended annexes are adopted.

There are differences in scope and implementation of legislation in this area, but all definitions of the term 'nanomaterial' share one common feature, the particle size.

Dozens of sizing methods are available for measuring materials. The scientists developed a matrix that includes material class, chemical composition, dimensions, size and a number of other categories. These are matched to various types of microscopy, spectrometry and other techniques.

JRC scientists felt it was "necessary to come to an agreement on which techniques can be used for which materials and for which purpose". Each particle size measurement technique has a region of applicability and none of the techniques is suitable for all materials, say the researchers.

The new scheme enables the proper identification of nanomaterials and has the potential to be accepted by regulators, industries and consumers alike, according to the researchers.

"Having such a scheme in place facilitates the regulatory assessment of nanomaterials and fosters the safe trade of nanomaterials," they say.

The scheme is published in the journal *Nanoscale Advances*.

Maria Delaney

Reporter

Further Information:

- Journal article (open access)

EU and US identify priority areas for nanosafety research cooperation

Recommendations from Harvard workshop

3 May 2019 / Europe, Nanomaterials, Risk assessment, United States

A recent EU-US collaborative workshop has identified a number of priority areas for nanosafety research.

Participants from academia, industry and policy drafted recommendations that will be shared with the European Commission and appropriate US funding agencies. The workshop report says this is "in view of the upcoming Horizon Europe" programme that will replace the EU's current Horizon 2020 framework.

The seven research priorities are:

- environment and human hazards;
- emerging nanomaterials and potential risks;
- social and natural science research;
- nanoinformatics;
- exposure assessment;
- standard methodologies; and
- lifecycle stewardship.

The workshop on nanosafety took place in March 2019 at Harvard University and was part of the bilateral coordination for the enhancement and development of science and technology partnerships between the EU and US (BILAT USA 4.0).

The project aims to enhance and develop science, technology, and innovation partnerships between the US and Europe and is funded by the EU. It looks at future research priorities in nanosafety and other advanced materials, and also the opportunities for EU-US cooperation in nanosafety.

A number of potential mechanisms were identified to advance this cooperation. Joint research programmes were suggested in addition to the twinning of existing projects. It was also proposed that the US participate in Horizon 2020 and Horizon Europe as well as fund, through US federal agencies, US participation in EU initiated nanosafety programmes.

A number of nanosafety research programs are established in both the US and EU. The report emphasises that "cooperation between these efforts has existed for years, and this ought to continue and extend".

Maria Delaney

Reporter

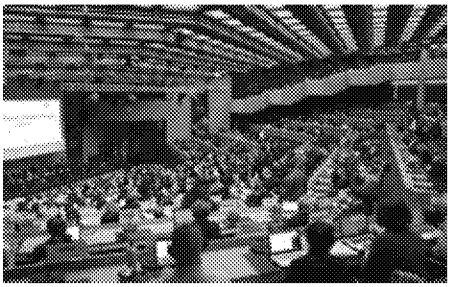
Further Information:

- Workshop report

Geneva meeting agrees global ban on PFOA, with exemptions

Negotiators add the chemical to annex A of the Stockholm Convention.

6 May 2019 / Global, PFCs, POPs



International negotiators at the meeting of the UN Conference of the Parties in Geneva have unanimously agreed a global ban on the use of perfluorooctanoic acid (PFOA), with some exemptions.

Delegates at the meeting agreed on Friday to add the chemical, along with its salts and PFOA-related compounds, to Annex A of the Stockholm Convention on persistent organic pollutants (POPs). This requires countries to take action to "eliminate the production and use" of the chemical.

PFOA is widely used in industrial sectors and manufacturing processes for its resistance to water and oil. PFOA-related compounds are used as surfactants and surface treatment agents in textiles, papers and paints and firefighting foams. The substance has been identified as persistent, bioaccumulative and reprotoxic by the EU.

PFOA and other per- and polyfluoroalkyl chemicals (PFASs) have come under fire in recent years amid mounting public concern and political controversy. The chemicals have been found in one-third of drinking water in the US. Earlier in the week a press conference at the event heard calls from firefighters and fire safety experts to ban fluorinated chemicals in firefighting foam.

Several five-year exemptions to the ban were approved for the chemical, including in:

- firefighting foam;
- photolithography or etch processes in semiconductor manufacturing;
- photographic coatings applied to films;
- textiles for oil-and water-repellency for the protection of workers from dangerous liquids that comprise risks to their health and safety;
- invasive and implantable medical devices;
- manufacturing fluorinated polymers;

- manufacturing plastic accessories for car interior parts; and
- manufacturing electrical wires.

For the exemption on firefighting foam, special additional controls were included, with governments prohibiting the production, export or import and use in training of PFOA-containing foam. The final decision also said alternatives to PFOA-containing foam should be used "where available, feasible and efficient," and added that other flourine-based firefighting foams "could have negative environmental, human health and socioeconomic impacts due to their persistency and mobility."

Iran, China and the EU each requested exemptions at the event, instead of through the usual channel of the Stockholm Convention's scientific review committee. Ipen, an international network of NGOs, protested against the late addition of exemptions.

Dr Mariann Lloyd-Smith, National Toxics Network and Ipen advisor, said that although the "global ban on PFOA and the warning about not using PFAS alternatives starts a new era in addressing this entire class of persistent, toxic chemicals ... some governments betrayed the treaty's scientific review process by suddenly adding vast, wide-ranging loopholes that continue PFOA's cycle of harm."

Most of the 182 countries that have ratified the Stockholm Convention have 12 months to implement the ban. The US is not a party to the Convention, so the ban does not apply to it.

However, the US is considering domestic restrictions on PFOA and other fluorinated substances in parallel. In February, the EPA published a federal plan to manage the risks posed by PFASs. This was touted by the agency's acting administrator as the "most comprehensive cross-agency action plan for a chemical of concern ever undertaken by the agency."

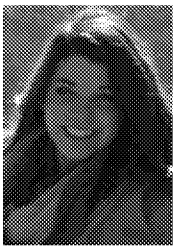
PFOS exemptions ended

Delegates at the Stockholm Convention meeting also agreed to tighten a restriction on PFOS, another fluorinated chemical that was added to Annex A in 2009 with several exemptions. The following exemptions were ended:

- photo-imaging, photo-resist and anti-reflective coatings for semiconductors;
- etching agent for compound semiconductors and ceramic filters;
- aviation hydraulic fluid;
- certain medical devices;
- photo masks in semiconductor and LCD industries;
- decorative metal plating;
- electric and electronic parts for some colour printers and colour copy machines;

- insecticides for control of red imported fire ants and termites; and
- chemically-driven oil production.

The use of PFOS in firefighting foams was also given a five-year deadline, and its production, export or import and use in training was disallowed.



Ginger Hervey

UN/emerging markets reporter

Related Articles

- Firefighters call for fluorine-free foam at international POPs meeting
- UN expert committee recommends global action on three PFASs
- US EPA announces PFAS action plan

Further Information:

- COP decision on PFOA
- Ipen statement

OTHER ARTICLES

Warning: Fashion Nova May Cause Cancer

Black Enterprise

... included a warning label stating that the material in the swimwear includes harmful chemicals. “Did y'all know this tag is in Fashion Nova swimsuits?

Kat Nouri: “Why we need to start a plastic free movement”

Thrive Global

These ocean plastics leach **toxic chemicals** and gasses at an accelerated rate when subjected to heat, and these toxins travel through fish, eventually ...

The #1 Fabric to Avoid, According to Science

Yahoo Lifestyle

Toxic chemicals aside, synthetic fabrics simply don't breathe, and anyone who's worn polyester on a hot summer day is probably well aware of that.